

NOTES ON AN APPARENT "RAIN" OF ORGANIC MATTER IN FLORIDA¹

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In a summary of spurious and authentic rains of organic matter McAtee (1918) states, "Other jelly rains have proved to consist of the egg masses of midges, and of colonies of infusoria," but cites no specific case nor reference to such a case in the literature. Therefore it is felt that the following account is worthy of publication.

At the University of Florida Conservation Reserve, Welaka, Putnam County, Florida, a very heavy summer thundershower, accompanied by a slight Northwest wind, commenced at two o'clock on the afternoon of July 23, 1949, and lasted until about five o'clock that afternoon. Shortly after the rain ended one of us (Nelson) came out of Apartment 3 on the Reserve and was startled to observe that the entire front of the apartment was peppered with thousands of gelatinous masses which had not been present just before the rain started. He immediately called the senior author over to see this phenomenon and we collected random samples of the gelatinous masses placing some in 70% alcohol, 5% formalin, and in tap water. Several photographs were taken just before sundown in hopes of obtaining a record to illustrate the density of the material, (Plate 1). These gelatinous masses averaged approximately 5 x 10 mm. in size, were blue-green in color to the naked eye (a few were colorless), and were present in greater density on the window screens, lower siding baseboard, and the outer one-half inch square mesh hardware cloth on the lower half of the front screen door. The samples in tap water disintegrated within ten (10) days.

We were unable to find any of this material on the lawn, the shell road or sidewalks; however, scattered masses were observed on the Northwest end of the laboratory building and the Northwest corner of the garage building on the Reserve. On July 24 this material was found on Jean's Grill in Welaka, one mile away, and at the Star Theater, Crescent City, which is nine air miles Southeast of Welaka. At no place was the density as great as on Apartment No. 3.

The only explanation for the sudden occurrence of this organic matter seemed to be that it had rained down. We suspected that it

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represented either the egg masses of some mollusk or was some form of Algae. The U. S. Weather Bureau in Jacksonville, Florida supplied the information that no unusual winds had been reported for the area for the week ending July 23 and that the only disturbance for the State was a small tornado 10 miles North of Madison, Madison County in North Western Florida on July 20 (130 air miles from Welaka).



PLATE 1

Chironomid egg masses on the outside walls of Apartment Number 3, University of Florida Conservation Reserve, Welaka, Putnam County, Florida.

Samples were sent to Dr. William J. Clench, Harvard College, and to Dr. Henry van der Schalie, Michigan Museum. They replied that the material did not represent the egg masses of Mollusks; however, the samples at Michigan were identified as insect eggs by Drs. J. Speed Rogers and T. H. Hubbell.

On August 20 Mr. Arnold F. van Pelt observed globular masses of jelly in small areas on the sides of the laboratory building and on Apartment Number 2 at the Reserve and recorded the following data: "temperature, 22°C, relative humidity, 100%, heavy rains in early afternoon later tapering off until the sky was overcast with

the sun in evidence for short periods of time. Some of the globules had become brown in drying up, while others remained very gelatinous." Samples that were placed in boiled rain water cooled to room temperature deteriorated by August 27. On August 22 we observed the areas mentioned above and found only brownish masses of dried protoplasm. In contrast, the dried up masses still on Apartment Number 3 were blue-green and very glassy in appearance on this date. (It is interesting to note that the organic matter observed on July 23 and August 20 was noted after heavy rains).

On August 23 at 2:00 A. M. the senior author scooped up about a dozen Chironomids from the screen door of Apartment Number 4 on the Reserve and threw them into the freshly changed water of a bowl containing a young pet turtle. Most of the midges flew up off the water so this performance was repeated and some of the insects were pushed down under the surface to wet their bodies and wings. While eating breakfast on the same date four gelatinous masses were observed in the turtle bowl. These appeared identical to those previously collected on the buildings, but like those from Apartment Number 2, were a slight brownish color and with no trace of blue-green. Two of the four masses were preserved in 70% alcohol on August 25 when it was first observed under the microscope that some of the eggs inside the masses were hatching. Hatching was first observed at noon in the laboratory at which time the water temperature was 31°C and the air temperature 31.5°C. By September 5 all the larvae in the above culture (estimated at 100) had died except for two specimens which could be seen actively moving in their tubes of sand grains. We identified these larvae as members of the family Chironomidae. Careful micro-examination of the preserved masses from the July 23, August 20 and 23 collections revealed that they were all very similar in structure, arrangement of the eggs inside the individual masses and in size, and are believed to be egg masses of Chironomids. The late Dr. Melvin A. Brannon, University of Florida, kindly identified the material responsible for the blue-green color of the Apartment Number 3 sample as Myxophyceae.

July to December are months when great swarms of midges are known to occur in this region of the St. Johns River and these swarms are attracted by lights much as the mayflies are during some years in the Lake Erie region. Many midges were observed

at lighted windows and doors during these months at the Reserve by us; however, the gelatinous egg masses were found only after very heavy rains on the dates given in this note. The senior author has spent approximately three years at the Conservation Reserve and this is the only known instance of the occurrence of this phenomenon during this period.

LITERATURE CITED

McATEE, W. L.

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